

Back Pain

Resolving Back Pain with Active Release Techniques®

If you experience back pain you are not alone. Back pain is one of the most common and costly health problems in our culture. Anyone who has experienced a bad back knows it can be extremely frustrating and often debilitating. Many back problems appear to be initiated by only minor, seemingly routine activities, or in many cases have no clear cause at all. Once present, back pain often interferes with our work, and prevents us from enjoying our favorite things, such as walking, playing golf, exercising, or gardening. There are many instances where back pain can even interfere with a good nights sleep. To make matters worse many common back conditions are slow to respond to traditional types

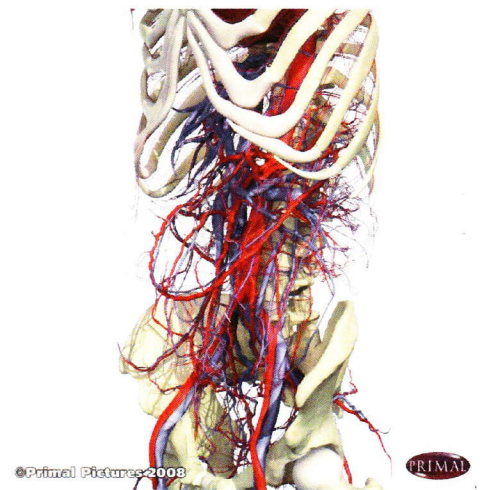
of care, often providing only temporary relief with the same problem re-occurring over and over again.

Now for the good news, a new treatment technique known as **Active Release Techniques® (ART®)** is proving to be a very effective method to treat many common back problems and is helping to get back pain sufferers doing their favorite activities again. But before we talk about how ART® works so effectively, first we first need to understand how the back becomes injured in the first place.

Understanding Back Pain

When talking about the back, we are actually talking about the spinal column, which consists of a series of small bones called “vertebrae” stacked on top of each other. Each of these bones is connected to one another through a series of joints. The first is the intervertebral joint, which is formed when two vertebrae are joined together by an intervertebral disc. The second and third joints are known as facet joints. These joints are located on the back of the spine and consist of the small, bony processes that extend back from the vertebral bodies. These joints between each vertebrae allow the spinal column to bend, which is important to all of our everyday movements. However, spine mobility comes at a cost because it makes the spine less stable. In fact, research has shown that by itself, the spinal column will actually collapse and buckle under as little as 20 pounds of pressure.

To protect the spine, a complex series of muscles surrounds the spinal column to control movement and protect the area from injury. These muscles are arranged in several layers. The deepest layers consist of very small muscles that attach into each individual vertebrae and control and protect each individual joint. The middle layers span across several joints, and the outer layer consists of the larger, more powerful muscles that run the entire length of the spine, all the way from bottom to top. This complex muscle system essentially acts as a series of guy wires that move and stabilize each vertebrae and prevent excessive motion and buckling of the spine. When each muscle group is adequately strong, flexible, and coordinated the back remains protected and healthy.



How Does Injury Occur?

We rely on the muscles that support and control the spine for all of our daily activities. Whether we are bending down to put on a pair of socks, shoveling, vacuuming, or carrying a bag of groceries, the health of the back depends on a complex interaction of muscular contraction to move and stabilize each joint in our spine. If any of the muscles that surround the spine become tight, weak, or uncoordinated, it will place excessive strain on the other surrounding muscles and on the spine itself. Over time, if this imbalance in the muscles and resulting abnormal back motion is allowed to continue, it can eventually develop into a more severe back condition.

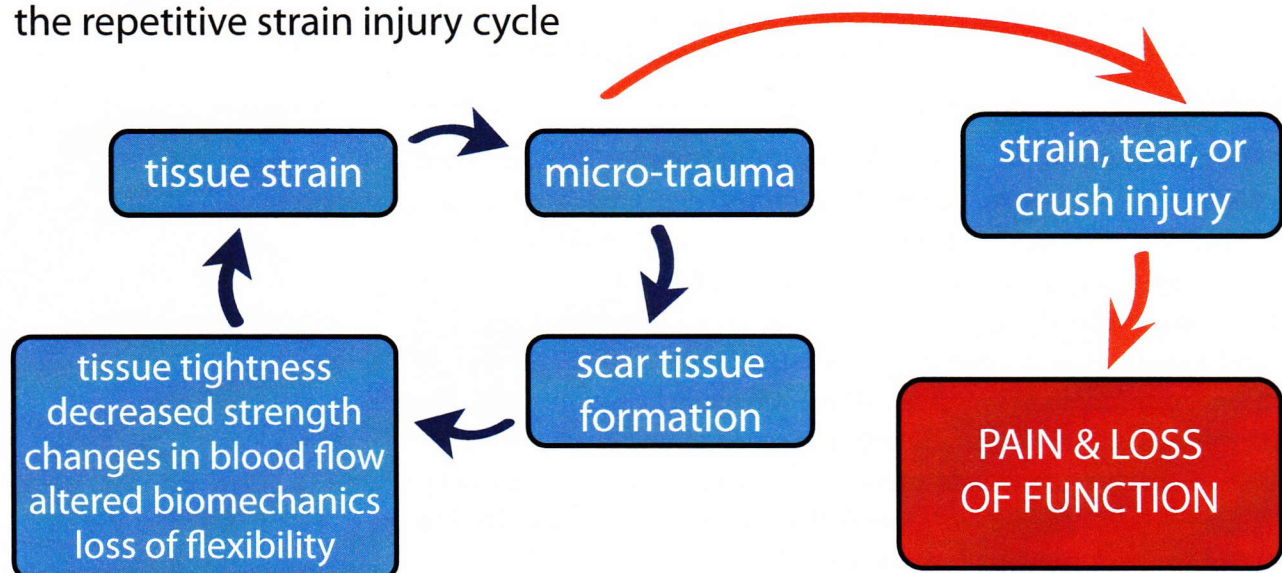
There are a variety of situations that can cause tightness, weakness, and abnormal function of the back. For example, repetitive use with certain sports or occupations, poor posture, lack of use, lack of stretching, muscle imbalances, or previous injuries can all affect the normal function of the back and surrounding muscles, resulting in excessive strain to the area.

Over time, this strain can develop into what is known as **micro-trauma**. Micro-trauma is very small scale damage that occurs in the muscles, tendons, joint capsules, and ligaments in response to small levels of strain. Initially, micro-trauma is not painful, but may be perceived as a mild ache or tightness in the muscles. Although only small, this damage still needs to be repaired. The body responds to micro-trauma

in a predictable way - by laying down small amounts of scar tissue to repair the area. Unfortunately, over time this scar tissue will build-up and accumulate into what we call **adhesions**. As adhesions form they start to affect the normal health and function of the muscles and related joints. In fact, they will often lead to **pain, tightness, stiffness, restricted joint motion, and diminished blood flow**. This places even further strain on the back muscles, which, in turn, leads to even more micro-trauma. Essentially a repetitive strain injury cycle is set-up, causing continued adhesion formation and progressive spinal column dysfunction. At this point pain and tightness will often start to become noticeable.

As this repetitive strain injury cycle continues, the ability of the back muscles to meet the demands placed on them diminishes. At this point it is not uncommon for the muscles to give way and a more severe and debilitating pain occurs. In fact, many patients come into our office explaining how they have back pain but they do not recall any specific incident or event that may have triggered the pain. When further questioned these patients almost always describe some mild pain or tightness in their back that has been building over time. As you can see, from the explanation of the repetitive injury cycle, these types of injuries build-up over time until it eventually develops into larger scale injury.

the repetitive strain injury cycle



Back Pain and the Kinetic Chain Relationship

Active Release Techniques® (ART) can help resolve many common back conditions, including:

- facet syndrome
- muscle strains / pulls
- arthritis
- sciatic nerve entrapment
- disc injuries
- Sacroiliac (SI) joint pain
- lower cross syndrome
- flexion syndrome
- nerve entrapment
- Quadratus Lumborum Strain
- piriformis syndrome
- mechanical low back pain
- and many more...

When discussing any type of back problem we also need to review the relationship that the back has with the other joints in the body, particularly the hip. Recall that the spine is designed to be flexible, but that excessive movement will lead to problems. The hip, on the other hand, is designed to provide a tremendous amount of movement. Unfortunately, it is extremely common for the hip to be tight and restricted. When this occurs it often will require the spine to move more than normal in an effort to compensate for the lack of motion at the hip. Excessive spine movement will result in low back pain, but as you can see, the problem at the hip is the underlying cause.

A common example of how the back is influenced by the hip occurs with walking. During a walking stride, the hip must extend backwards as the upper body passes over the support leg. If the hip is restricted and does not extend properly, the back will have to extend excessively to compensate. This will, in turn, lead to a “jamming” of the facet joints on the back of the spine and lead to pain. In this instance treatment directed at the back will be needed, but for full resolution, the problem at the hip will also require correction to reach a lasting solution.

How Can These Back Injuries Be Fixed?

The Traditional Approach

In an attempt to relieve back pain, a variety of treatment methods are used, either on their own, or in combination with other methods. Some of the more common approaches include muscle relaxants, anti-inflammatory medications, rest, heat, ice, ultrasound (US), muscle stimulation (E-Stim), massage, acupuncture, joint mobilization, stretching and strengthening exercises, and when all else fails, surgery. Unfortunately, most of these traditional techniques generally require a long period of time before they provide any significant relief, and in many cases provide only temporary relief from symptoms instead of fixing the underlying cause of the problem.

The main reason that these approaches are often ineffective is that they fail to address the underlying muscle dysfunction and scar tissue adhesions that develop within the muscles and surrounding soft tissues.

These adhesions are binding the tissues together, restricting normal movements, and interfering with the normal flexibility and contraction of the muscles in and around the spine.

Passive approaches such as medications, rest, ice, and ultrasound, all focus on symptomatic relief and do nothing to address the muscle restrictions and dysfunction. More active approaches such as joint mobilization, stretching and exercises are often needed for full rehabilitation of the condition and to restore full strength and function of the muscles, however, they themselves do not treat the underlying adhesions. In fact, without first addressing the scar tissue adhesions, stretches and exercises are often less effective and much slower to produce relief or recovery from back pain.